

Health Status of Older Male Prisoners: A Comprehensive Survey

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ABSTRACT

Although prison populations remain predominantly young, the number of older inmates in state and federal correctional facilities has been increasing. This report describes the results of a health survey of 119 male inmates 50 years of age and older residing in Iowa state correctional facilities. Subjects' disease history included hypertension (40%), myocardial infarction (19%), and emphysema (18%). Most participants (97%) had missing teeth, 42% had gross physical functional impairments, and 70% smoked cigarettes. These findings have implications for health care provision and release planning. (*Am J Public Health*. 1992;82:881-884)

Introduction

The number of older inmates in state and federal correctional facilities has been increasing as a result of the aging of the general population and changes in arrest and sentencing patterns.¹⁻⁵ Although older persons still account for less than 4% of the US inmate population, there is concern about their impact on corrections systems. It has been suggested that older inmates may require additional health care services; assistance with personal care; special dietary, educational, rehabilitative, and recreational services; or modifications in the physical environment.^{1,6-9} Concerns have also been raised about the need for special services upon parole or discharge.⁹⁻¹¹ However, because relatively little is known about the health and functional status of older inmates,¹ planning for this population is difficult. This report describes a population-based health survey of older inmates in Iowa correctional facilities.

Methods

Respondents

The respondents were 119 men (81% of the target population) aged 50 years and older who were residing in seven Iowa state correctional facilities housing men between June and December, 1989. Nonparticipation was most often the result of refusal by the inmate (23 of 29 nonparticipants). There were too few women residing in the one women's facility ($n = 10$) to tabulate here. The demographic characteristics of participants are shown in Table 1.

Interview Procedures and Measures

Letters describing the study were distributed to inmates, who returned postcards to investigators if they wanted to participate. Inmates were interviewed in person at the prisons; interviewers used a standardized questionnaire that required 90 minutes to administer. Interview contents are summarized in Appendixes 1 and 2.

Corrections staff were nearby but did not participate. Each participant received \$5.00 compensation. The study was ap-

proved by the University of Iowa's institutional review board.

Statistical Analyses

Initial analyses²⁴ examined the distributions of measures according to age group (50 to 59 years, 60 years and older), using analysis of variance and chi-square for tests of statistical significance, as appropriate. Measures of cognitive function were adjusted for educational attainment.

Results

Table 2 shows the age group-specific and overall percentages of specific illnesses reported. The most common chronic illnesses were arthritis, hypertension, ulcers, prostate problems, and myocardial infarction. Rates were typically higher among inmates aged 60 years and older than among those aged 50 to 59 years.

Measures of age group-specific and overall health and functional status are presented in Table 3. Although almost 65% rated their health as excellent or good, almost half reported that their health had worsened since incarceration. Chest pain was reported by 61%, but fewer than 8% had a history of angina.¹⁵ Fewer than 3% had all their teeth. Although 42% reported limitations in gross physical functional status, only 11% had limitations in routine self-care activities. Examination of the age group-specific measures indicates that participants aged 60 years and older were more likely to experience incontinence ($P < .01$), report hearing problems ($P < .05$), and have difficulty

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TABLE 1—Demographic Characteristics (n = 119)

Age, y	
Mean	57.0 (SD = 6.3)
Median	56.0
Educational attainment, y	
Mean	10.4 (SD = 3.4)
Median	10.0
Marital status, n	
Divorced/legally separated	54 (47.4%)
Married	36 (31.0%)
Never married	16 (13.8%)
Widowed	9 (7.8%)
Race, n	
White	99 (86.1%)
Black	11 (9.6%)
Native American	2 (1.7%)
Hispanic	2 (1.7%)
Prior prison sentence, n	69 (62.2%)
Life sentence, n	21 (18.1%)
Time already served, y	
Mean	5.7 (SD = 6.7)
Median	3.0
Time left to serve, y	
Mean	11.9 (SD = 11.4)
Median	9.0

Note. Information on marital status was missing for 4 persons, on race for 5 persons, on prior sentence for 8 persons, and on current sentence for 3 persons.

hearing normal voices ($P < .01$), than were those aged 50 to 59 years.

Psychobehavioral and social measures are summarized in Table 4. Participants typically rated their own memory and cognitive function as excellent or good, and of the 8 items on the mental status screening examination, they had a mean of 7.0 correct. Although older men were somewhat less likely than younger men to rate their own cognitive function as excellent or good ($P < .1$), there were no systematic differences in performance measures of cognitive function. Depressive and anxiety symptoms were common, but psychotic symptoms were less frequently reported. Older men reported significantly more offspring ($P < .05$), but there were no differences in visitation patterns. Only 37% of the men had visitors during the month prior to the interview, and most wished they had more.

Most inmates (69.8%) were current cigarette smokers, and 18.5% were former smokers. Current smokers consumed a mean of 23.0 cigarettes (SD = 13.6) per day. Almost all inmates (96.6%) had a history of alcohol consumption, and 45.4%

TABLE 2—Percentage of Male Inmates with Lifetime History of Specific Self-reported Physician-diagnosed Illness

	Age, y		Overall (n = 119)
	50–59 (n = 82)	> 59 (n = 37)	
Arthritis	40.2	56.8	45.4
Hypertension	36.7	45.9	39.7
Any venereal disease	21.5	21.6	21.6
Stomach or intestinal ulcers	18.3	27.0	21.0
Prostate problems	17.1	27.0	20.2
Myocardial infarction	17.7	21.6	19.0
Emphysema	14.6	27.0	18.5
Diabetes	10.1	13.5	11.2
Asthma	8.5	10.8	9.2
Stroke	3.8	16.2	7.8
Cancer	6.3	8.1	6.9
Cirrhosis or liver disease	4.9	2.7	4.2
Injury requiring medical care	78.5	73.0	76.7

TABLE 3—Health and Functional Status According to Age Group

	Age, y		Overall (n = 119)
	50–59 (n = 82)	> 59 (n = 37)	
Mean no. major illnesses (of 5)	0.7 (.10) ^a	1.1 (.14)	0.8 (.08)
% with at least one	59.8	73.0	63.9
Weight, lb	189.2 (3.6)	176.5 (5.4)	185.2 (3.1)
Body mass index	3.86 (.06)	3.68 (.10)	3.81 (.06)
Self-perceived health status			
% Excellent or good	69.5	54.1	64.7
Health since incarceration			
% Better	3.8	8.1	5.2
% Worse	44.3	54.1	47.4
Mean no. respiratory symptoms (of 9)	2.5 (.29)	3.3 (.42)	2.8 (.23)
% Chest pain	57.0	70.3	61.2
% Angina ¹²	7.3	8.1	7.6
% Low back pain in past year	27.8	35.1	30.2
% Any incontinence	13.9	37.8	21.6
% Missing all teeth	34.2	48.6	38.7
% Missing some teeth	63.3	48.7	58.7
% Recognize friend across street	94.9	81.2	93.1
% Read normal newsprint	96.2	86.5	93.1
% Have hearing aid	6.3	16.2	9.5
% Believes have hearing loss	30.8	55.6	38.6
% Trouble hearing normal voices	9.1	33.3	16.8
% With gross physical functional disability	38.0	51.4	42.2
% With routine self-care dependency	8.9	16.2	11.2
% With dependency in instrumental activities	9.0	24.3	20.7
% With difficulty making isolated movements	68.3	83.8	73.2

^aValues in parentheses are standard errors of the mean.

described themselves as having been heavy drinkers; 29.4% reported illicit drug use.

Discussion

This report describes the health and functional status of older inmates in Iowa state correctional facilities. Although chronic illness was common and many inmates reported limitations in gross physical functional ability, most inmates were

able to perform routine self-care activities and described their own health as excellent or good. There was little evidence of cognitive impairment. Sizable social networks were described, but visits were not common.

Self-reported rates of lifetime substance use were high and may have implications for health care. The high rates of smoking (over twice the national average)²⁵ may contribute to the respiratory symptoms and illnesses, cardiovascular

conditions, and cancer found among this population; thus, smoking cessation programs appropriate to the prison environment should be developed. A history of heavy drinking was four times as common among these inmates as it was in a population-based study of older Iowans.²⁶ In that study, a history of heavy drinking was strongly associated with increased morbidity and mortality. The effects of illicit drug use on older persons remains largely uninvestigated. However, the absence of substantial alcohol and other substance abuse in the prison system could have a mitigating effect on subsequent disease occurrence.

The finding of increased rates of incontinence, sensory impairment, and flexibility impairment suggests that corrections departments may need to modify the physical environment of prisons that house large numbers of older inmates and provide special programming.^{1,13} The provision of specialized equipment, however, may raise issues of limited resources and priority setting.

Several limitations should be noted in these findings. First, the cohort is small although it does include most older male inmates in Iowa state correctional facilities. Second, some misclassification may have been introduced by the use of self-reported history of chronic conditions. Third, Iowa has lower crime and incarceration rates than do many other states,²⁷ and the prisons in Iowa are relatively small. Moreover, inmates in Iowa facilities may have different levels of access to or use of health care services than inmates in other states. Thus, the findings reported here should be replicated in other prison systems, especially those with larger numbers of minority inmates and women. □

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TABLE 4—Psychobehavioral and Social Measures According to Age Group

	Age, y		
	50-59 (n = 82)	> 59 (n = 37)	Overall (n = 119)
Self-rated memory			
% Excellent or good	73.6	74.6	74.1
Self-rated cognition			
% Excellent or good	89.5	77.3	85.8
Recall memory test, no. items (of 20)	5.8 (.27) ^a	5.9 (.41)	5.8 (.23)
Recognition memory test, no. items (of 20)	10.6 (.49)	10.2 (.74)	10.5 (.41)
Mental status exam, no. correct (of 8)	7.1 (.12)	6.9 (.17)	7.0 (.10)
Depressive symptoms (range: 11-33)	15.0 (.44)	16.3 (.64)	15.4 (.36)
Loneliness symptoms (range: 4-12)	7.6 (.14)	7.9 (.22)	7.1 (.12)
Anxiety symptoms (range: 5-15)	8.2 (.26)	8.1 (.40)	8.1 (.22)
% Worry "too much"	14.6	18.9	16.0
Psychotic symptoms (range: 0-12)	1.3 (.19)	1.4 (.28)	1.3 (.16)
Mean no. offspring	2.9 (.37)	4.5 (.54)	3.4 (.31)
Mean no. close relatives	6.0 (1.2)	3.9 (1.8)	5.3 (1.0)
Mean no. friends in prison	5.1 (1.3)	8.8 (1.9)	6.3 (1.1)
Mean no. friends outside prison	8.1 (1.9)	11.6 (2.7)	9.3 (1.5)
Mean no. visitors in past month	1.2 (.29)	1.3 (.42)	1.2 (.23)
% With any visitor	39.2	32.4	37.1
% Wish had more visitors	67.1	59.4	64.7
% Prefer solitary activities	29.3	27.0	28.6
% Talk about problems	32.9	43.2	36.1

Note. Cognitive function measures are adjusted for educational attainment.
^aValues in parentheses are standard errors of the mean.

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APPENDIX 1—Summary of Demographic, Health, and Functional Status Measures

Demographic characteristics

Age
Educational attainment
Race
Marital status
Criminal history

General health status

Self-reported lifetime history of physician diagnosed illness
myocardial infarction, stroke, hypertension, cancer, diabetes, arthritis, asthma, emphysema, ulcers, cirrhosis, venereal disease, prostate problems
Symptoms and complaints in past year
dry or itching skin, pain in legs at night, indigestion, fallen arches, bunions or corns on feet, other foot problems, trouble with fingernails or toenails, joint pain, morning joint stiffness
Enumeration of major illnesses
myocardial infarction, stroke, hypertension, cancer, diabetes
Respiratory symptoms¹²
shortness of breath, coughing, phlegm production
Self-perceived health status
as compared with age mates,¹³ as changed since incarceration
Sleep problems¹⁴
trouble falling asleep, wake during night, wake too early, feel rested in morning, need to nap during day
London School of Hygiene Cardiovascular Questionnaire¹⁵
Urinary incontinence¹⁴
Low back pain in past year¹⁴
Self-rated vision function¹⁶
Self-rated hearing function¹⁶
Self-reported height and weight
Tooth loss¹⁴

Physical functional status

Gross physical function¹⁷
walk a half-mile, walk up stairs, do heavy work
Instrumental activities
fill out forms and requests, handle own canteen account, clean cell, make telephone calls
Routine self-care activities¹⁸
bathe, dress, groom, toilet, eat, walk across small room, transfer from bed to chair
Isolated movements¹⁹
push heavy objects, stoop, lift 10 pounds, reach arms above shoulders, write, handle small objects, stand in place for 15 minutes, get up from chair, stand on one foot, pick up object from floor

APPENDIX 2—Summary of Substance Use and of Psychobehavioral and Social Measures

Substance use¹⁶

Tobacco
cigarettes, cigars, pipes, smokeless tobacco
Alcohol¹⁴
whether alcohol ever consumed, history of heavy drinking
Illicit drugs
stimulants, sedatives, opiates, marijuana, hallucinogens

Psychobehavioral function

Cognitive function
mental status screening examination,²⁰ 20-item memory performance test,¹⁴ self-rated memory,¹⁴ self-rated cognition
Affect and psychiatric symptoms
Center for Epidemiologic Studies Depression Scale,²¹ anxiety symptoms,¹⁴ loneliness,²² psychotic symptoms²³

Social network/style¹⁴

Number of offspring
Number of close relatives
Number of friends inside prison
Number of friends outside prison
Number of visitors in past month
Desire for more visitors
Tendency to discuss problems with others
Preference for solitary activities